

CLAIMS

1. A manufacturing method of a Ta sputtering target in which a Ta ingot or billet
5 formed by melting and casting is subject to forging, annealing, rolling processing
and the like to prepare a sputtering target, wherein the ingot or billet is forged and
thereafter subject to recrystallization annealing at a temperature of 1373K to 1673K.
2. A manufacturing method of a Ta sputtering target according to claim 1,
wherein forging and recrystallization annealing at a temperature of 1373K to 1673K
10 are repeated at least twice.
3. A manufacturing method of a Ta sputtering target according to claim 1 or
claim 2, wherein the recrystallization annealing after the forging or rolling performed
at a temperature of 1373K to 1673K is performed at a temperature between the
recrystallization starting temperature and 1373K.
- 15 4. A manufacturing method of a Ta sputtering target according to any one of
claims 1 to 3, wherein, after the final rolling processing, recrystallization annealing
is performed at a temperature between the recrystallization starting temperature and
1373K, and finish processing is further performed to obtain a target shape.
5. A manufacturing method of a Ta sputtering target according to claim 4,
20 wherein, after performing rolling, crystal homogenization annealing or stress
relieving annealing is performed.
6. A manufacturing method of a Ta sputtering target according to any one of
claims 1 to 5, wherein the average crystal grain diameter of the target is made to be
a fine crystal grain size at 80 μm or less.
- 25 7. A manufacturing method of a Ta sputtering target according to any one of
claims 1 to 5, wherein the average crystal grain diameter of the target is made to be
a fine crystal grain size at 30 to 60 μm .
8. A manufacturing method of a Ta sputtering target according to any one of
claims 1 to 7, and a Ta sputtering target obtained with said method, wherein there is
30 no uneven macro structure in the form of streaks or aggregates on the surface or
inside the target.